

November & Fall 2023 Climate Review

Temperature Overview

November 2023 featured near to slightly cooler than normal temperatures across the local area, with changeable temperatures throughout the month. Across the continental US, the pattern was dominated by a strong upper-level ridge that was mostly in place across the central portion of the nation, keeping temperatures above average over most of the midwest and central/northern Plains, and northern Rockies (see Figure 2a for national temperature departures). Regionally, the states of Virginia, Maryland, and North Carolina were classified as “near average” with 2023 being just slightly cooler than normal overall. Locally, average temperatures were about 1 degree below normal, varying from within a few tenths of normal at Richmond and Louisa, to nearly 2 degrees colder than normal at Edenton (see table on page 3 for details). Given dry conditions and ample sunshine, the average high temperatures were near to above normal at some stations while average low temperatures were colder than normal everywhere. Fall (Sep-Oct-Nov) temperatures were generally near normal for southeast Virginia and northeast North Carolina, and about 1 degree warmer than normal for central Virginia and the VA/MD eastern shore (see table on page 4 for details).

A brief cold snap that began on Halloween extended into the first few days of November, followed by generally warmer than normal conditions during the first full week of the month from the 5th through the 11th; all locations recording their highest monthly temperature on either the 7th or the 9th. Richmond’s high of 83 degrees on the 9th set a daily record high (others were close but did not attain record values). After that, temperatures were generally mild and seasonal through Thanksgiving, with a cold spell to finish November. Morning low temperatures on the 29th were below freezing for the entire area, even at the immediate coast of southeast Virginia and northeast North Carolina. Elizabeth City’s low of 21 degrees set a new daily record low for the date, and readings in central Virginia dipped into the teens. High temperatures on the 29th did not get out of the low-mid 40s for central and southern sections of the Wakefield CWA, with upper 30s over the Maryland eastern shore. The tally for number of days with a daily high 5 or more degrees above normal and below normal was **9 warm** vs. **6 cool** at Richmond and **6 warm** vs. **9 cool** at Norfolk.

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Precipitation Overview

November 2023 precipitation was again drier than normal across the region, continuing the overall dry pattern that has been in place since the late spring and summer, with the 3-month period of meteorological Fall also drier than normal. Due to heavy rainfall on a few select days, none of our long-term climate sites ranked among the top 10 driest for either November or Fall, but in terms of the number of days with rainfall, the dry conditions have been evident. A typical November will see between 7 and 9 days over the local area with measurable precipitation; 2023 only recorded from 3 to 6 days. Most of the sites recorded more than 50% of their November rainfall total on either the 21st or the 22nd with little to nothing for the rest of the month. For Fall, most places received more than half of the 3-month total from 2 events: Tropical Storm Ophelia (September 22-23rd) and the November 21-22nd event. At the conclusion of November, a vast majority of the Wakefield CWA was classified as being either D0 (abnormally dry) or D1 (moderate drought), with the driest conditions generally over the piedmont.

Severe weather in November was non-existent, a combination of very dry conditions and when it did rain a few days before Thanksgiving, conditions were stable across the region.

The following table on page 3 shows detailed temperature and precipitation statistics for November 2023 at many locations within the Wakefield CWA (page 4 shows the same data but for Fall (Sep-Nov). Page 5 shows national temperature and precipitation departures and rankings for November (page 6 shows these values for Fall (Sep-Nov). On page 7, daily high temperature departures are shown at Richmond and Norfolk, followed by monthly precipitation maps (page 8), with daily records set during the month at our 4 main climate sites on the last page.

Tabular Summary of Data for Selected Climate Sites (November):

November 2023 Temperature Summary Data																	* also on other dates			All Normals are 1991-2020		
Site	Avg Max		Avg Min		Avg Temp		Daily Highs					Daily Mins					Remarks					
	(°F)		(°F)		(°F)		Warmest (°F)			Coldest (°F)		Warmest (°F)			Coldest (°F)							
	Actual	Dep	Actual	Dep	Actual	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual		Date	Dep			
Richmond	62.1	1.7	36.7	-2.1	49.4	-0.2	83	9th	6	44	29th	0	51	7th	-8	19	29th	-5				
Norfolk	60.8	-1.3	43.7	-0.7	52.3	-1.0	81	9th	2	42	30th	-3	56	9th	-5	29	30th	-1				
Salisbury	59.9	1.3	34.8	-3.1	47.3	-0.9	75	7th	0	39	29th	-4	51	7th	-7	23	29th	1				
Wallops Island	59.4	0.6	38.8	-1.9	49.1	-0.6	76	7th	2	40	29th	-3	56	7th	-3	24	29th	-2				
Elizabeth City	62.8	-0.3	40.8	-1.6	51.8	-0.9	79	9th	0	43	29th	-5	54	21st	-7	21	29th	-6				
Ashland, VA	58.9	-0.1	34.9	-2.5	46.9	-1.3	79	9th	4	41	29th	-1	52	22nd	-5	16	29th	-6				
Corbin, VA	58.6	0.5	32.9	-3.8	45.8	-1.6	81	9th	5	41	29th	-1	52	7th	-5	15	29th	-7				
Louisa, VA	60.7	3.3	31.0	-3.1	45.9	0.1	83	9th	7	43	29th	1	46	18th	-9	13	29th	-5				
Wakefield, VA	62.5	0.5	34.3	-3.3	48.4	-1.4	81	9th	3	43	29th	-3	52	9th	-6	17	29th	-5				
Williamsburg, VA	61.2	0.1	38.3	-2.6	49.8	-1.2	79	9th	2	43	29th	-3	54	7th	-5	22	29th	-4				
Edenton, NC	60.1	-2.8	42.8	-1.2	51.5	-1.9	74	9th	-3	42	29th	-6	56	18th	-5	23	29th	-5				

November 2023 Precipitation & Snowfall Summary Data																	* also on other dates			All Normals are 1991-2020		
Site	Total Pre		# Pre Days		# Pre Days		Greatest		Total Snow		# Snow Days		# Snow Days		Greatest		Remarks					
	(in.)		(≥0.01")		(≥0.10")		(in.)		(in.)		(≥0.1")		(≥1.0")		(in.)							
	Actual	Dep	Actual	Dep	Actual	Dep	Act	Date	Act	Dep	Act	Dep	Act	Dep	Daily	Date		Storm	Date			
Richmond	2.08	-0.98	3	-5	3	-2	1.16	21st	0.0													
Norfolk	2.43	-0.67	4	-5	3	-2	1.61	22nd	0.0													
Salisbury	2.09	-1.07	4	-5	3	-2	0.89	21st	0.0													
Wallops Island	1.77	-1.11	3	-6	3	-2	0.62	22nd	0.0													
Elizabeth City	2.44	-0.53	6	-3	2	-3	1.57	22nd	0.0													
Ashland, VA	2.21	-1.16	4	-3	2	-3	1.52	22nd	0.0													
Corbin, VA	2.34	-0.98	5	-2	1	-4	2.23	22nd	0.0	-0.1												
Louisa, VA	2.81	-0.78	2	-7	2	-4	1.53	22nd	0.0	-0.1												
Wakefield, VA	2.59	-0.58	5	-3	3	-2	1.42	22nd	0.0													
Williamsburg, VA	2.90	-0.23	4	-5	3	-3	1.46	22nd	0.0													
Edenton, NC	3.46	0.22	5	-2	3	-2	2.11	22nd	0.0													

* **“Dep”= Departure** from the 30-year normals (1991-2020). Temperature departures are shaded orange for 1 F or more warmer than average (dark red for 4 F or greater anomalies) and blue for 1 F or more cooler than average (dark blue for 4 F or more below normal). Similarly, precipitation departures are shaded green for 0.50” or more wetter than average (dark green for 2.00” or more) and tan for 0.50” or more drier than average (dark brown for 2.00” or more drier). Snowfall departures are shaded purple for 1” or more above average and tan for 1” or more below average.

Tabular Summary of Data for Selected Climate Sites (FALL/Sep-Oct-Nov):

FALL (Sep-Oct-Nov) 2023 Temperature Summary Data																	* also on other dates	All Normals are 1991-2020
Site	Avg Max		Avg Min		Avg Temp		Daily Highs					Daily Mins					Remarks	
	(°F)		(°F)		(°F)		Warmest (°F)			Coldest (°F)		Warmest (°F)			Coldest (°F)			
	Actual	Dep	Actual	Dep	Actual	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual	Date	Dep	Actual		Date
Richmond	73.3	2.5	50.3	0.7	61.8	1.5	101	9/6	8	44	11/29	0	75	9/5	2	19	11/29	-5
Norfolk	71.4	-0.5	55.6	0.2	63.5	-0.2	96	9/7	4	42	11/30	-3	78	9/7	3	29	11/30	-1
Salisbury	71.5	2.4	48.6	0.1	60.0	1.2	97	*9/7	6	39	11/29	-4	75	9/8	2	23	11/29	1
Wallops Island	70.9	2.0	52.0	0.3	61.5	1.3	96	9/6	7	40	11/29	-3	75	9/5	1	24	11/29	-2
Elizabeth City	73.4	0.6	52.3	-1.1	62.9	-0.2	96	9/6	4	43	11/29	-5	75	9/7	0	21	11/29	-6
Ashland, VA	70.1	1.1	48.5	0.3	59.3	0.7	95	9/7	5	41	11/29	-1	71	9/7	0	16	11/29	-6
Corbin, VA	69.6	1.0	46.6	-0.6	58.1	0.2	97	9/7	6	41	11/29	-1	71	9/7	0	15	11/29	-7
Louisa, VA	71.4	3.1	44.5	-0.4	57.9	1.3	94	*9/6	3	43	11/29	1	66	9/8	-3	13	11/29	-5
Wakefield, VA	72.7	0.8	48.3	-0.3	60.5	0.2	97	9/7	5	43	11/29	-3	74	9/7	2	17	11/29	-5
Williamsburg, VA	71.7	0.8	51.3	-0.5	61.5	0.2	97	9/6	6	43	11/29	-3	74	9/7	1	22	11/29	-4
Edenton, NC	70.6	-1.7	54.2	-0.2	62.5	-0.9	93	9/5	3	42	11/29	-6	77	9/7	3	23	11/29	-5

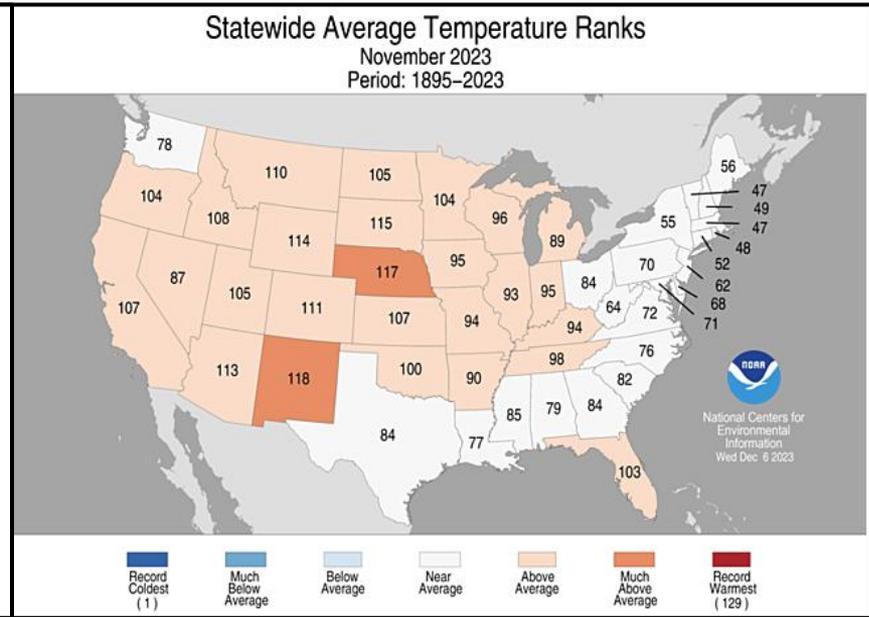
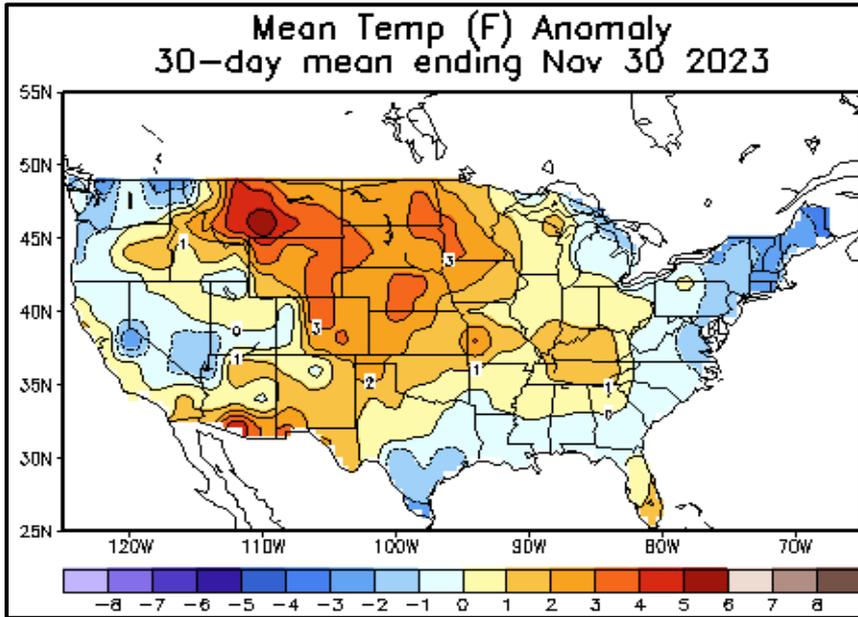
FALL (Sep-Oct-Nov) 2023 Precipitation & Snowfall Summary Data																	* also on other dates	All Normals are 1991-2020
Site	Total Pre		# Pre Days		# Pre Days		Greatest		Total Snow		# Snow Days		# Snow Days		Greatest		Remarks	
	(in.)		(≥0.01")		(≥0.10")		(in.)		(in.)		(≥0.1")		(≥1.0")		(in.)			
	Actual	Dep	Actual	Dep	Actual	Dep	Act	Date	Act	Dep	Act	Dep	Act	Dep	Daily	Date		Storm
Richmond	8.38	-2.68	20	-6	13	-3	2.76	9/23	0.0									
Norfolk	6.45	-5.91	18	-8	8	-8	1.77	9/22	0.0									<i>Driest since 2007</i>
Salisbury	9.34	-2.45	22	-5	12	-5	2.83	9/23	0.0									
Wallops Island	6.07	-5.16	19	-7	8	-8	1.99	9/23	0.0									
Elizabeth City	7.52	-3.60	20	-6	8	-7	2.92	9/22	0.0									
Ashland, VA	10.50	-0.75	18	-4	12	-4	2.61	9/23	0.0									
Corbin, VA	9.91	-2.07	24	2	7	-9	4.01	9/23	0.0	-0.1								
Louisa, VA	7.64	-4.25	17	-10	10	-7	1.69	9/23	0.0	-0.1								
Wakefield, VA	8.89	-4.28	21	-4	11	-5	2.29	9/23	0.0									
Williamsburg, VA	10.18	-2.56	22	-6	14	-3	2.92	9/23	0.0									
Edenton, NC	9.34	-3.27	15	-6	10	-7	2.61	9/23	0.0									

* **“Dep”= Departure** from the 30-year normals (1991-2020). Temperature departures are shaded orange for 1 F or more warmer than average (dark red for 4 F or greater anomalies) and blue for 1 F or more cooler than average (dark blue for 4 F or more below normal). Similarly, precipitation departures are shaded green for 0.50” or more wetter than average (dark green for 2.00” or more) and tan for 0.50” or more drier than average (dark brown for 2.00” or more drier). Snowfall departures are shaded purple for 1” or more above average and tan for 1” or more below average.

National Temperature & Precipitation Departure: November 2023

TEMPERATURE

TEMPERATURE



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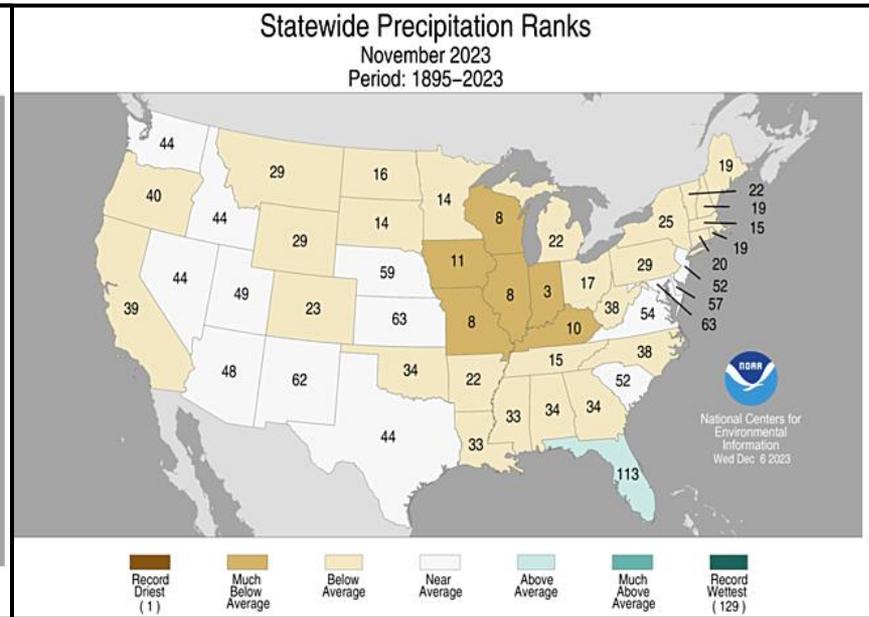
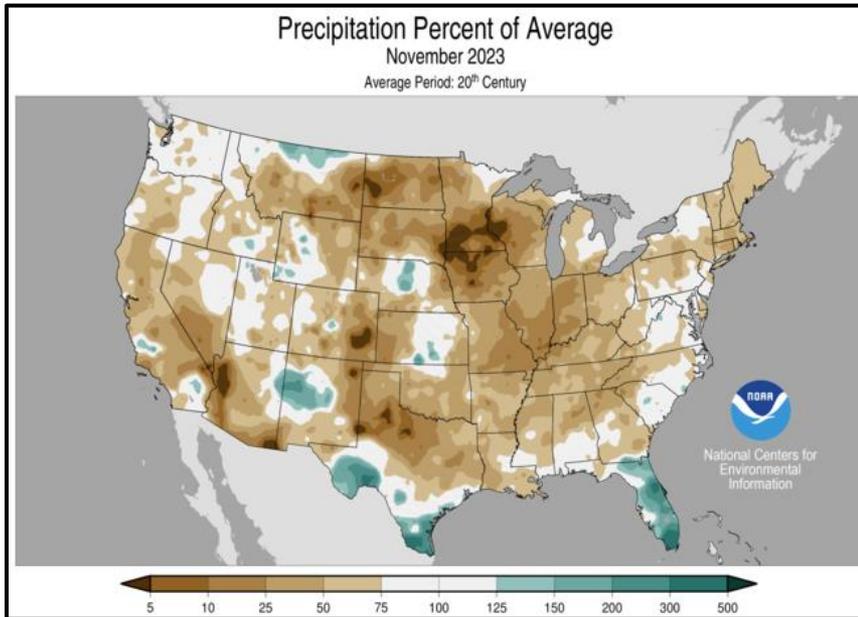
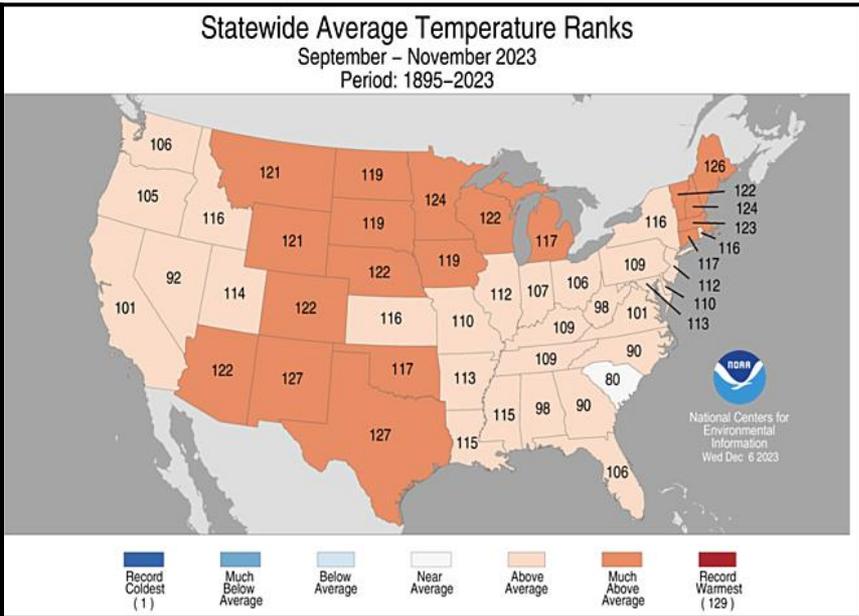
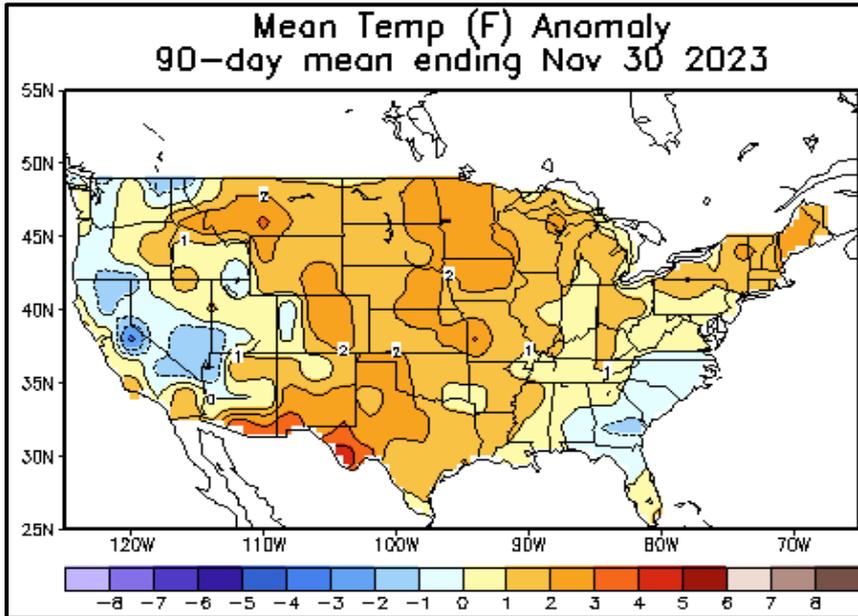


Figure 2a: Avg. Temperature & Precipitation Departure and Statewide Ranks Source: NCEI & CPC

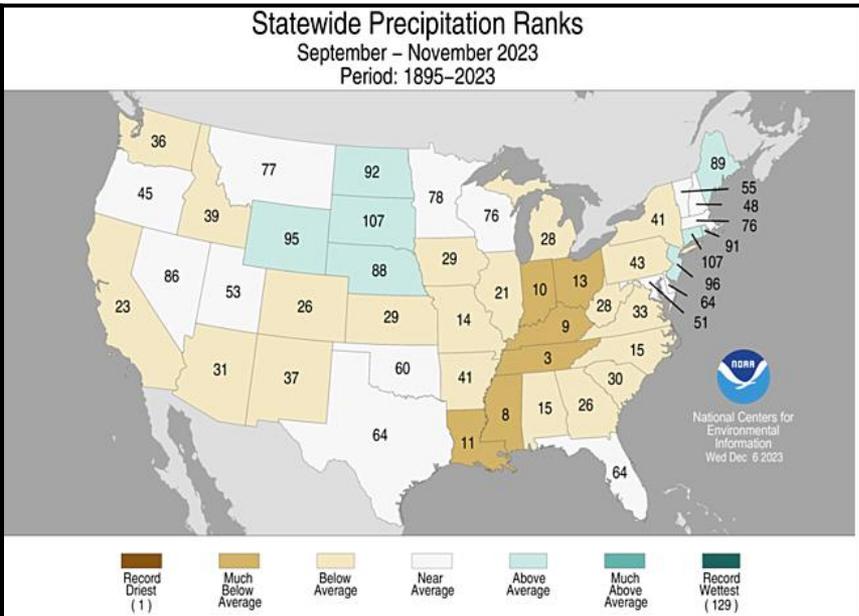
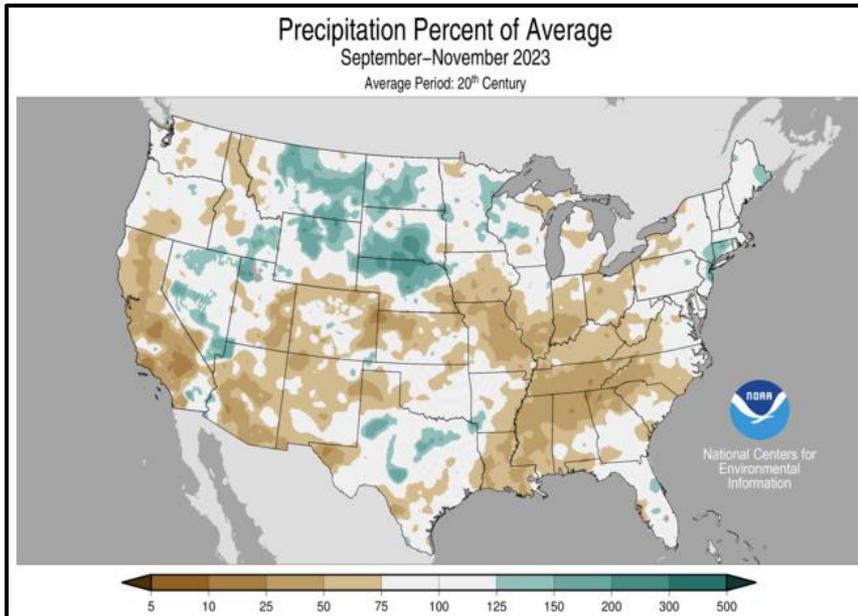
National Temperature & Precipitation Departure: Fall (Sep-Nov) 2023

TEMPERATURE



TEMPERATURE

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Figure 2b: Avg. Temperature & Precipitation Departure and Statewide Ranks Source: NCEI & CPC

Daily High Temperature Departures at Richmond & Norfolk, VA (November)

November 2023: Richmond, VA

Observed Maximum Temperature Departure from Normal (°F)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 53° -12° 65°	2 54° -11° 65°	3 61° -4° 65°	4 72° +8° 64°
5 75° +11° 64°	6 71° +7° 64°	7 82° +19° 63°	8 70° +7° 63°	9 83° +20° 63°	10 66° +4° 62°	11 61° -1° 62°
12 58° -4° 62°	13 60° -1° 61°	14 63° +2° 61°	15 60° 0° 60°	16 72° +12° 60°	17 74° +14° 60°	18 67° +8° 59°
19 61° +2° 59°	20 57° -2° 59°	21 63° +4° 59°	22 61° +3° 58°	23 59° +1° 58°	24 58° 0° 58°	25 47° -10° 57°
26 47° -10° 57°	27 58° +2° 56°	28 49° -7° 56°	29 44° -12° 56°	30 58° +2° 56°		

NWS Wakefield - Richmond

November 2023: Norfolk, VA

Observed Maximum Temperature Departure from Normal (°F)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 52° -15° 67°	2 53° -13° 66°	3 59° -7° 66°	4 65° -1° 66°
5 68° +3° 65°	6 67° +2° 65°	7 78° +13° 65°	8 65° +1° 64°	9 81° +17° 64°	10 65° +1° 64°	11 58° -5° 63°
12 59° -4° 63°	13 56° -7° 63°	14 59° -3° 62°	15 60° -2° 62°	16 69° +7° 62°	17 76° +14° 62°	18 65° +4° 61°
19 58° -3° 61°	20 58° -3° 61°	21 65° +5° 60°	22 67° +7° 60°	23 57° -3° 60°	24 56° -4° 60°	25 51° -8° 59°
26 54° -5° 59°	27 57° -2° 59°	28 48° -10° 58°	29 42° -16° 58°	30 57° -1° 58°		

NWS Wakefield - Norfolk

Figure 3: Daily High Temperature Departures at RIC and ORF

Regional Precipitation Maps: November 2023

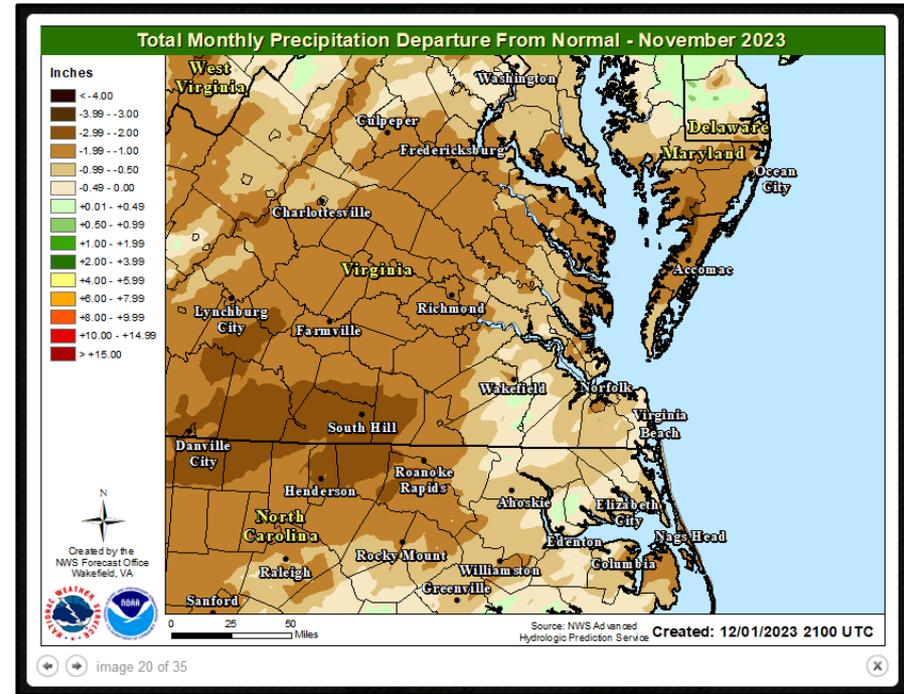
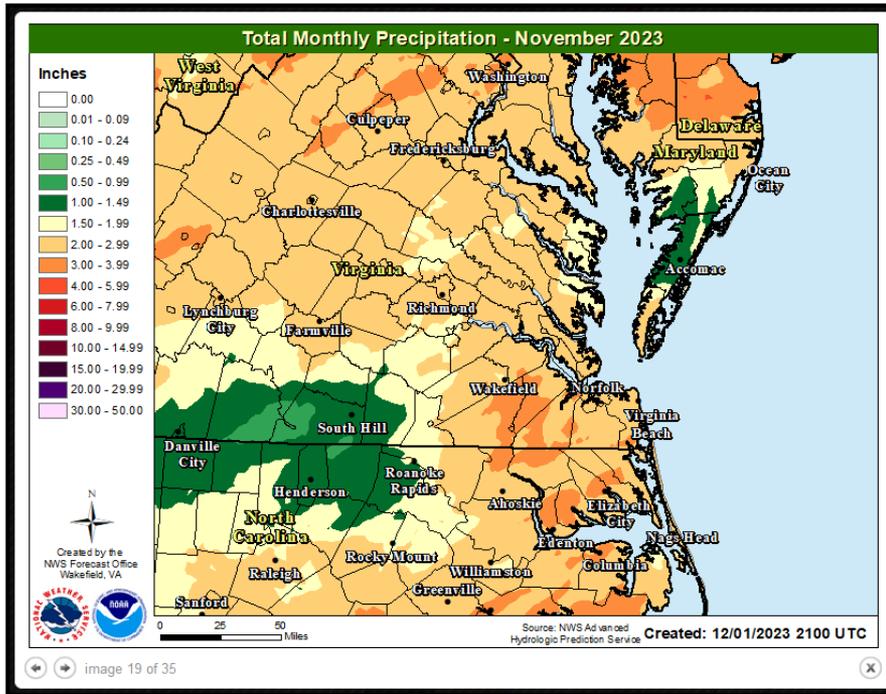


Figure 4: *Total Precipitation* for the month is shown in the map on the left. *Departures* from the 30-year normals (1991-2020) are shown on the map on the right.

Daily Records for Long Term Climate Sites (November):

Norfolk, VA Records (Period of Record 150 yrs./1874-2023)

**tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: none set.

Daily Precipitation: 1.61" (22nd).

Richmond, VA Daily Records (Period of Record 127 yrs./1897-2023)

**tie*

Record Highs: 83 (9th).

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: none set.

Daily Precipitation: none set.

Salisbury, MD Daily Records (Period of Record 117 yrs./1907-2023)

**tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: none set.

Record High Minimums: none set.

Daily Precipitation: none set.

Elizabeth City, NC Daily Records (Period of Record 90 yrs./1934-2023)

**tie*

Record Highs: none set.

Record Low Maximums: none set.

Record Lows: 21 (29th).

Record High Minimums: none set.

Daily Precipitation: none set.